



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2021-0819; FRL-9266-01-R9]

Air Plan Approval; Arizona; Bullhead City; Second 10-Year PM₁₀ Limited Maintenance Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a revision to the Bullhead City portion of the Arizona State Implementation Plan (SIP). These revisions concern the second 10-year maintenance plan for Bullhead City for the 1987 National Ambient Air Quality Standards (NAAQS or “standards”) for particulate matter less than 10 micrometers in diameter (PM₁₀).

DATES: Comments must be received on or before [Insert date 30 days after date of publication in the *Federal Register*].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2021-0819 at <https://www.regulations.gov>. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information

about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>. If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

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SUPPLEMENTARY INFORMATION: Throughout this document, “we,” “us,” or “our” refer to the EPA.

Table of Contents

I. Background

- A. Clean Air Act Requirements and Air Quality Designations
- B. Limited Maintenance Plan Option for the Bullhead City Area

II. Arizona's SIP Submittal

III. The EPA's Evaluation of Arizona's SIP Submittal

- A. Procedural Requirements
- B. Limited Maintenance Plan Option
- C. Additional Maintenance Plan Requirements
- D. Transportation and General Conformity Requirements

IV. The EPA's Proposed Action

I. Background

A. Clean Air Act Requirements and Air Quality Designations

The EPA has established health-based standards for PM₁₀. On July 1, 1987, the EPA promulgated two standards for PM₁₀: a 24-hour standard of 150 micrograms per cubic meter (µg/m³) and an annual PM₁₀ standard of 50 µg/m³.¹ Effective December 18, 2006, the EPA revoked the annual PM₁₀ standard but retained the 24-hour PM₁₀ standard.² In this document, references to the PM₁₀ NAAQS or PM₁₀ standard refer to the 24-hour average standard of 150 µg/m³, unless otherwise noted.

¹ 52 FR 24634 (July 1, 1987).

² 71 FR 61144 (October 17, 2006).

Under section 107(d) of the CAA, the EPA is required to designate areas of the country, based on ambient air quality data, as attainment, unclassifiable, or nonattainment for each NAAQS. Under the CAA Amendments of 1990, the Bullhead City area was designated as part of a large “unclassifiable” area in Arizona for the PM₁₀ NAAQS.³ In 1993, in light of PM₁₀ NAAQS violations monitored in 1989 and 1990, the EPA redesignated the Bullhead City air quality planning area as a “Moderate” nonattainment area for the PM₁₀ standard.⁴ To meet the SIP planning requirements for such areas, state and local agencies adopted and implemented a number of control measures to reduce PM₁₀ emissions and lower ambient PM₁₀ concentrations in the Bullhead City area, including paving of certain unpaved roads. In 2002, the EPA determined that the Bullhead City area had attained the PM₁₀ NAAQS by the applicable attainment date of December 31, 2000.⁵ The 24-hour standard is attained when the expected number of days with levels above 150 µg/m³ (averaged over a 3-year period) is less than or equal to one.

B. Limited Maintenance Plan Option for the Bullhead City Area

Under CAA section 175A, one of the criteria for an area to be redesignated from nonattainment to attainment is the approval of a maintenance plan. The maintenance plan must, among other requirements, ensure control measures are in place such that the area will continue to maintain the standard for the period extending 10 years after redesignation and include contingency provisions to assure that violations of the NAAQS will be promptly remedied.

In 2002, the Arizona Department of Environmental Quality (ADEQ) submitted a maintenance plan, titled “Bullhead City Moderate Area PM₁₀ Maintenance Plan and Request for Redesignation to Attainment” (February 2002) (“First 10-Year Limited Maintenance Plan” or

³ For the definition of the Bullhead City maintenance area, see 40 CFR 81.303. The Bullhead City maintenance area is located in western Arizona. The original nonattainment area was defined by the equivalent of approximately six townships covering more than 200 square miles: T21N, R20–21W, excluding Lake Mead National Recreation area; T20N, R20–22W; and T19N, R21–22W, excluding the Fort Mohave Indian Reservation. On June 26, 2002, the EPA approved the State's request that some areas of undisturbed desert terrain containing no industrial or commercial activity be excluded from the Bullhead City PM₁₀ planning area (67 FR 43020, 43022). As a result of the boundary change, the townships comprising the maintenance area include: T21N, R21W, excluding Lake Mead National Recreation Area; T20N, R21–22W; and T19N, R22W, excluding the Fort Mohave Indian Reservation.

⁴ 58 FR 67334 (December 21, 1993).

⁵ 67 FR 7082 (February 15, 2002).

“First 10-Year LMP”) to the EPA as a revision to the Arizona SIP, and requested that the EPA redesignate the Bullhead City area to attainment.⁶ The First 10-Year LMP provided for maintenance of the PM₁₀ NAAQS in the Bullhead City area for 10 years after redesignation. On June 26, 2002, the EPA approved the First 10-Year LMP for the Bullhead City area as providing for maintenance through 2012.⁷

The EPA’s primary guidance on maintenance plans is a 1992 memorandum entitled “Procedures for Processing Requests to Redesignate Areas to Attainment” (“Calcagni memo”).⁸ In August 2001, the EPA issued guidance on streamlined maintenance plan provisions for certain Moderate PM₁₀ nonattainment areas seeking redesignation to attainment (“LMP policy”).⁹ Herein, the option set forth in the LMP policy is referred to as the “LMP option.”

The LMP policy does not require areas to project a demonstration of maintenance into the future. Instead, the LMP policy allows areas meeting certain air quality criteria to use a statistical method to demonstrate, with a high degree of probability, that the area will maintain the standard 10 years into the future. The maintenance demonstration requirement of the Act is considered to be satisfied when a moderate nonattainment area meets the air quality criteria outlined in the LMP policy, and there is no need for qualifying areas to project emissions over the maintenance period.

To qualify for the LMP option for redesignation to attainment, the area should be attaining the 1987 24-hour PM₁₀ NAAQS and the average PM₁₀ 24-hour design value concentration, based upon the most recent five years of air quality data at all monitors in the area, should be at or below 98 µg/m³ or the respective site-specific critical design value (CDV). The CDV is a calculated design value concentration that indicates the area has a low probability

⁶ ADEQ, Bullhead City Moderate Area PM₁₀ Maintenance Plan and Request for Redesignation to Attainment, February 2002.

⁷ 67 FR 43020.

⁸ Memorandum dated September 4, 1992 from John Calcagni, Director, Office of Air Quality Planning and Standards, to Directors of EPA Regional Air Programs.

⁹ Memorandum dated August 9, 2001, from Lydia Wegman, Director, Office of Air Quality Planning and Standards, to Directors of EPA Regional Air Programs entitled “Limited Maintenance Plan Option for Moderate PM₁₀ Nonattainment Areas” or “LMP policy.”

(1 in 10) of exceeding the NAAQS in the future. In addition, the area should expect only limited growth in on-road motor vehicle PM₁₀ emissions (including fugitive dust) and should have passed a motor vehicle regional emissions analysis test. The LMP option also identifies core provisions that must be included in all LMPs. These provisions include an attainment year emissions inventory, assurance of continued operation of an EPA-approved air quality monitoring network, and contingency provisions. If the State determines that the area in question meets the above criteria, it may select the LMP option for the first 10-year maintenance period.¹⁰

The LMP policy also states that once the LMP option is in effect, the state must verify in each subsequent year that the area still qualifies for the LMP option by recalculating the area's average design value concentration annually and determining that the LMP criteria are met for that year.

As noted above, in June 2002, the EPA approved the First 10-Year LMP for the Bullhead City area. This action affirmed that Bullhead City's plan met the limited maintenance plan requirements through 2012 and redesignated the area to attainment for the PM₁₀ NAAQS.

II. Arizona's SIP Submittal

CAA section 175A(b) requires states to submit an additional SIP revision to maintain the NAAQS for 10 years after the expiration of the 10-year period covered by the initial maintenance plan approved in connection with the redesignation of the area from nonattainment to attainment. On May 24, 2012, ADEQ submitted a second 10-year maintenance plan, titled "Limited Maintenance Plan Update for the Bullhead City PM₁₀ Maintenance Area" (May 2012) ("2012 Bullhead City Second 10-Year LMP" or "Second 10-Year LMP"), to meet the requirement for the subsequent maintenance plan under CAA section 175A(b). The 2012 Bullhead City Second 10-Year LMP is intended to provide for continued maintenance of the PM₁₀ NAAQS for the 10-year period following the end of the first 10-year period, i.e., through June 2022.

¹⁰ Id.

Consistent with the requirements at the time, the First 10-year LMP provided for maintenance of both the 24-hour average and annual average PM₁₀ NAAQS. However, since then (as noted above), the EPA has revoked the annual average PM₁₀ NAAQS, and thus, the Second 10-Year LMP addresses only maintenance of the 24-hour PM₁₀ NAAQS.

III. The EPA's Evaluation of Arizona's SIP Submittal

A. Procedural Requirements

Section 110(l) of the act requires states to provide reasonable notice and public hearing prior to adoption of SIP revisions. Documents in ADEQ's submittal describe the public review process followed by ADEQ for the Second 10-year LMP for the Bullhead City area prior to adoption and submittal to the EPA as a revision to the Arizona SIP. The documentation provides evidence that reasonable notice of a public hearing was provided, and a public hearing was conducted prior to adoption.

The documentation is found in Enclosure 4 of the May 24, 2012 submittal. Enclosure 4 includes evidence that reasonable notice of a public hearing was provided to the public and that a public hearing was conducted prior to adoption. Specifically, the affidavit of publication included in Enclosure 4 shows that notices of a public hearing and the opening of a comment period of at least 30 days for the 2012 Bullhead City Second 10-Year LMP were published on March 23, 2012 and March 30, 2012, in a newspaper of general circulation within the Bullhead City area. The public hearing was held on May 3, 2012. No comments were received during the public comment period or at the public hearing. ADEQ adopted the plan and submitted it to the EPA for approval on May 24, 2012.

Based on the documentation provided in Enclosure 4 of the 2012 Bullhead City Second 10-Year LMP, we find that the submittal of the plan as a SIP revision satisfies the procedural requirements of section 110(l) of the Act.

B. Limited Maintenance Plan Option

Bullhead City qualified for the LMP option in 2002 for the first 10-year maintenance

period. ADEQ's second 10-year maintenance plan provides the same categories of information as the first plan, based on the LMP option. In addition, the majority of the second maintenance period, which ends in 2022, has already passed and the area has not violated the standard during this period. For the reasons given below, we conclude that the Bullhead City area continues to qualify for the LMP option and that the 2012 Bullhead City Second 10-Year LMP meets all applicable requirements for subsequent maintenance plans under CAA section 175A(b).

1. Continued Attainment of the NAAQS

The first criterion for the LMP option is attainment of the NAAQS. Generally, the EPA determines whether an area's air quality is meeting the PM₁₀ NAAQS based upon complete,¹¹ quality-assured, and certified data gathered at established state and local air monitoring stations (SLAMS) in the nonattainment area and entered into the EPA Air Quality System (AQS) database. Data from air monitors operated by state, local, or tribal agencies in compliance with EPA monitoring requirements must be submitted to AQS. These monitoring agencies certify annually that these data are accurate to the best of their knowledge. Accordingly, the EPA relies primarily on data in AQS when determining the attainment status of an area.¹² All valid data are reviewed to determine the area's air quality status in accordance with 40 CFR part 50, Appendix K.

The PM₁₀ standard is attained when the expected number of exceedances averaged over a three-year period is less than or equal to one. The expected number of exceedances averaged over a three-year period at any given monitor is known as the PM₁₀ design value. The PM₁₀ design value for the area is the highest design value within the nonattainment area. Three consecutive years of air quality data are required to show attainment of the PM₁₀ standard.¹³

ADEQ is responsible for monitoring ambient air quality in the Bullhead City area and

¹¹ For PM₁₀, a "complete" set of data includes a minimum of 75 percent of the scheduled PM₁₀ samples per quarter. See 40 CFR part 50, appendix K, section 2.3(a).

¹² 40 CFR 50.6; 40 CFR part 50, appendix J; 40 CFR part 53; and 40 CFR part 58, appendices A, C, D, and E.

¹³ 40 CFR part 50, appendix K.

submits annual monitoring network plans to the EPA. The annual monitoring network plans submitted to the EPA discuss the status of, and describe the air monitoring network operated by ADEQ, as required under 40 CFR 58.10. The EPA reviews these annual monitoring network plans for compliance with the applicable reporting requirements in 40 CFR part 58. With respect to PM₁₀, the EPA has found that ADEQ's annual monitoring network plans meet the applicable reporting requirements for the area under 40 CFR Part 58. The EPA has also found that ADEQ currently meets or exceeds the requirements for the minimum number of SLAMS for PM₁₀ in the Lake Havasu City-Kingman, AZ Metropolitan Statistical Area (MSA), which includes the Bullhead City PM₁₀ maintenance area.¹⁴

The EPA also concluded from its 2018 Technical System Audit (TSA) that ADEQ's air monitoring program meets EPA requirements.¹⁵ ADEQ annually certifies that the data it submits to the AQS database are quality-assured.¹⁶

Since November 1997, ADEQ has operated a SLAMS PM₁₀ monitor in Bullhead City (AQS ID: 04-015-1003), located at the U.S. Post Office Building northeast of SR 95 and 7th Street. The surrounding area is commercial and residential to the west and south. The Colorado River lies to the west less than 300 meters. To the northeast/east, about 675 meters, is the Bullhead City Airport. The Second 10-Year LMP was submitted to EPA in 2012 and analyzes monitoring data from 2006-2010 for LMP qualification. During those years, ADEQ was operating the Bullhead City monitor on a once-every-sixth-day sampling schedule. ADEQ later switched to daily sampling in July 2012.

Table 1 shows the maximum monitored 24-hour PM₁₀ concentrations at the Bullhead City monitoring site for 2001–2020. The table reflects that values for the Bullhead City area are typically well below the PM₁₀ NAAQS of 150 µg/m³, with some exceedances measured in 2012,

¹⁴ Letter dated October 29, 2021, from Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX, to Daniel Czecholinski, Director, Air Quality Division, Arizona Department of Environmental Quality.

¹⁵ Letter dated April 25, 2019, from Elizabeth J. Adams, Director, Air Quality Analysis Office, EPA Region IX, to Timothy J. Franquist, Director, Air Quality Division, Arizona Department of Environmental Quality.

¹⁶ Letter dated April 26, 2021, from Daniel Czecholinski, Director, Air Quality Division, Arizona Department of Environmental Quality to Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region 9.

2013, and 2020.

Table 1
Bullhead City PM₁₀ Maximum 24-Hour Concentrations
(Bullhead City Monitor, AQS Identification Number 04-015-1003)

Year	Maximum Concentration ($\mu\text{g}/\text{m}^3$)
2001	39
2002	55
2003	44
2004	48
2005	48
2006	72
2007	52
2008	46
2009	98
2010	33
2011	132
2012	185
2013	208
2014	108
2015	69
2016	119
2017	125
2018	118
2019	92
2020	185

Source: EPA Air Quality System Quicklook Report 2001–2021, accessed November 5, 2021.

Table 2 shows the estimated number of exceedances for the Bullhead City PM₁₀ area for the three-year design value periods starting in 2001 and ending in 2020. The design values from 2001 through 2007 were invalid due to incomplete quarters in 2001, 2002, and 2005. However, there were no exceedances at the Bullhead City monitor from 2001 to 2007. Between the 2008 through 2020 design value periods, there were three exceedances of the NAAQS. However, no violations of the NAAQS (design values greater than 1.0) were recorded at the Bullhead City monitor from 2008 through 2020.

Table 2
Bullhead City PM₁₀ Design Values
(Bullhead City Monitor, AQS Identification Number 04-015-1003)

Design Value Period	Design Value ($\mu\text{g}/\text{m}^3$)
1999-2001	0.0 ^a
2000-2002	0.0 ^a
2001-2003	0.0 ^a
2002-2004	0.0 ^a
2003-2005	0.0 ^a
2004-2006	0.0 ^a
2005-2007	0.0 ^a

2006-2008	0.0
2007-2009	0.0
2008-2010	0.0
2009-2011	0.0
2010-2012	0.3 ^b
2011-2013	0.7 ^b
2012-2014	0.7 ^b
2013-2015	0.3
2014-2016	0.0
2015-2017	0.0
2016-2018	0.0
2017-2019	0.0
2018-2020	0.3

Sources: EPA Air Quality System Design Value Report 2001–2020, accessed November 5, 2021, and EPA PM₁₀ Design Value Spreadsheet, August 6th, 2015.

^a Invalid design value due to incomplete data in data years 2001, 2002, and 2005.

^b Due to a method change-out, AQS does not reflect the combination of the methods; however, the 2014 EPA PM₁₀ design value spreadsheets manually calculated these design values.

As such, based on complete, quality-assured and certified data for the 2010 design value, we conclude that the Second 10-Year LMP submittal accurately reflected that the Bullhead City area was attaining the standard. Similarly, the most recent design value for 2020 continues to reflect attainment of the standard.

2. Five-Year Average Design Value Concentrations

The LMP guidance provides two methods for review of monitoring data for the purpose of meeting the second criterion for the LMP option. The first method is a comparison of a site's average design value concentration, based on the most recent 5 years of data, to 98 µg/m³ for the 24-hour PM₁₀ NAAQS. If the area cannot meet this test, then a second test can be calculated for determination of qualification. This second method is a comparison of the site-specific CDV with the site's average design value concentration. The CDV is a margin of safety value and is the value at which an area has been determined to have a 1 in 10 probability of exceeding the NAAQS.

Table 3
Bullhead City PM₁₀ Design Concentrations and
3-Year Average Design Value Concentrations
(Bullhead City Monitor, AQS Identification Number 04-015-1003)

Design Value Years	Design Concentration (µg/m ³)
2006-2008	72
2007-2009	98
2008-2010	98
Average Design Value Concentration (2006-2010)	89

Table 4
Bullhead City PM₁₀ Design Concentrations and
3-Year Average Design Value Concentrations
(Bullhead City Monitor, AQS Identification Number 04-015-1003)

Design Value Years	Design Concentration (µg/m ³)
2016-2018	110
2017-2019	92
2018-2020	102
Average Design Value Concentration (2016-2020)	101

ADEQ's Second 10-Year LMP submittal included data from 2006-2010. As noted in Table 3 above, the average design value concentration for that five-year period was 89 µg/m³. Because the average design value concentration was below 98 µg/m³, the area qualified for the LMP average PM₁₀ design value concentration criterion based on the first method in the LMP guidance.¹⁷ We also evaluated the most recent five-year period of 2016-2020; the average design value concentration was 101 µg/m³, as noted in Table 4 above. Because the average design value concentration was above 98 µg/m³ from 2016-2020, we conducted the additional comparison of the site-specific CDV with the site's average design value concentration and calculated a site-specific CDV for 2016-2020 of 128 µg/m³.¹⁸ Because the average design value concentration was below the site-specific CDV, the area also qualified for the LMP average PM₁₀ design value concentration criterion for 2016-2020 based on the second method in the LMP guidance. Based on both the time period in the Second 10-Year LMP submittal and the most recent five-year average design value concentration, the Bullhead City area meets the second criterion for the LMP option.¹⁹

3. Motor Vehicle Regional Emissions Analysis Test

¹⁷ In its Second 10-Year LMP submittal, ADEQ calculated the design value concentration for the years 2006-2010 as 98 µg/m³. That value was the maximum design concentration across all five years, rather than the average design value concentration (of the three most recent design value concentrations). We use the average design value concentration here of 89 µg/m³ because that is the value the LMP option intended to be compared with the CDV threshold.

¹⁸ Technical Support Document (TSD) for the EPA's Rulemaking for the Arizona State Implementation Plan; Bullhead City Area 2nd Period Limited Maintenance Plan (LMP); November 2021.

¹⁹ Our TSD includes additional CDV information for 2013-2020 (all complete data years with daily sampling).

The third criterion for the LMP option is referred to as the motor vehicle regional emissions analysis test. The methodology for this test is found in Attachment B to the LMP policy and is used to determine whether increased emissions from on-road mobile sources could, in the next 10 years, increase design value concentrations in the area. As a general matter, the methodology increases the monitor-based design value concentration based on the expected growth in motor vehicle traffic over the maintenance period. Specifically, the motor vehicle fraction of the design concentration is assumed to equal the motor vehicle fraction of the overall emissions inventory. The motor vehicle fraction of the design concentration is then multiplied by the projected percentage increase in vehicle miles traveled (VMT) in the area over the next 10 years. The product of this calculation is then added to the monitor-based design value concentration and compared with the $98 \mu\text{g}/\text{m}^3$ or site-specific CDV.

ADEQ calculated a site-specific CDV in its submittal for use in the motor vehicle regional emissions analysis test. ADEQ calculated its CDV with a 1 in 5 probability instead of the 1 in 10 probability provided in the LMP option. This made the site-specific CDV more stringent, or lower, and yielded a CDV of $101 \mu\text{g}/\text{m}^3$.

For comparison, EPA calculated a site-specific CDV for the same years using a 1 in 10 probability and using the average design value concentration, as described in the LMP option.²⁰ This calculation yields $114 \mu\text{g}/\text{m}^3$, which is higher than ADEQ's site-specific CDV calculation.

ADEQ's motor vehicle growth analysis demonstration yielded $99.6 \mu\text{g}/\text{m}^3$, which is lower than both site-specific CDV thresholds that ADEQ and the EPA calculated. However, ADEQ calculated the motor vehicle design value concentration based on the on-road mobile portion of the 2008 inventory instead of the entire mobile source emissions inventory. ADEQ also used the maximum design value concentration instead of the average design value concentration as the basis for calculating the motor vehicle fraction of the design concentration.

²⁰ Technical Support Document (TSD) for EPA's Rulemaking for the Arizona State Implementation Plan; Bullhead City Area 2nd Period Limited Maintenance Plan (LMP); November 2021.

Using the EPA's calculated average design value concentration of $89 \mu\text{g}/\text{m}^3$ and the full mobile source portion of the 2008 emissions inventory yields a motor vehicle design value concentration of $7.5 \mu\text{g}/\text{m}^3$ and a motor vehicle regional analysis value of $91.4 \mu\text{g}/\text{m}^3$.²¹

Both ADEQ's and the EPA's calculated motor vehicle regional analysis values are lower than ADEQ's calculated site-specific CDV threshold of $101 \mu\text{g}/\text{m}^3$ and the EPA's calculated site-specific CDV threshold of $114 \mu\text{g}/\text{m}^3$. Consequently, we confirm that the motor vehicle growth analysis the Second 10-Year LMP was within the margin of safety required by the LMP option. Therefore, the third criterion for eligibility for the LMP option for the second 10-year maintenance period is met. Both site-specific values of $101 \mu\text{g}/\text{m}^3$ and $114 \mu\text{g}/\text{m}^3$ are significantly above the Bullhead City average design value concentration, thereby reaffirming the second criterion as well.

In addition, the Second 10-Year LMP notes that Bullhead City is located in rural Mohave County. Like other rural counties, Bullhead City experienced population growth during the 1970s; this growth continued into the 1980s. Growth slowed in the 1990s and 2000s. The Second 10-Year LMP included Bullhead City's population of 39,540 as of the 2010 U.S. Census. The submittal noted that the population was projected to continue growing, but at a lower rate than had historically been observed. As of the 2020 Census, Bullhead City has a population of 41,348.²² Although not directly related to the LMP option criteria, the low population growth in Bullhead City appears consistent with the Second 10-Year LMP's projection of low vehicle growth.

Under the LMP policy, the maintenance demonstration requirement under CAA section 175A is considered satisfied for areas meeting the three LMP criteria discussed above. Because the Bullhead City area continues to meet the LMP criteria, we conclude that no further demonstration of maintenance through the second 10-year period is necessary.

²¹ See the EPA's TSD for additional details on our calculation.

²² <https://www.census.gov/quickfacts/fact/table/bullheadcitycityarizona,mohavecountyarizona,AZ,US/POP010220> (last visited on October 25, 2021).

C. Additional Maintenance Plan Requirements

1. Emissions Inventory

The State's approved attainment plan should include an emissions inventory (attainment inventory), which can be used to demonstrate attainment of the NAAQS. The inventory should represent emissions during the same five-year period associated with air quality data used to determine whether the area meets the LMP applicability requirements.

As part of the 2012 Bullhead City Second 10-Year LMP, ADEQ prepared a PM₁₀ emissions inventory for 2008 for the Bullhead City area. 2008 is one of the years within the five-year period included in the Second 10-Year LMP PM₁₀ design value concentration and thus is an acceptable inventory year. Based on ADEQ's estimates, shown in Table 5 below, on-road motor vehicles (including fugitive dust from entrainment of PM₁₀ from travel on paved and unpaved roads, as well as exhaust, brake and tire wear) contributed approximately 8.4 percent to the total PM₁₀ inventory, while construction and windblown dust contributed 9.2 and 82.4 percent, respectively. Industrial sources contributed less than 0.1 percent.

Table 5. 2008 Emissions Inventory for the Bullhead City PM₁₀ Maintenance Area

Source Category	Bullhead City Maintenance Area PM ₁₀ Emissions (tons per year)	Percent of Total PM ₁₀ Emissions in Bullhead City Maintenance Area
Unpaved Roads – Fugitive Dust	373.42	5.1
Paved Roads – Fugitive Dust	223.88	3.0
Paved and Unpaved Roads – Exhaust, Tire, and Brake Wear	18.93	0.3
Subtotal – Motor Vehicles	616.23	8.4
Construction	679	9.2
Windblown Dust	6075.1	82.4
Industrial Sources	5.26	Less than 0.1
Total	7375.59	100

Source: Table 3.6 (p. 18) of the 2012 Bullhead City Second 10-Year LMP.

Section 3.2 of the 2012 Bullhead City Second 10-Year LMP describes the methodology used to develop the emissions inventory. The emissions inventory categories are the same as those identified in the first 10-year LMP, and the methodology used to determine the contribution of sources is largely the same as was used in the first 10-year LMP. ADEQ used

updated emissions factors for each source category based on current emissions models, vehicle activity, population, and employment figures.

For instance, ADEQ updated motor vehicle emissions estimates using the EPA's National Mobile Inventory Model (NMIM) to develop emissions factors for motor vehicle exhaust, tire, and brake wear for motor vehicles. NMIM used the EPA's MOBILE6.2 emissions factors, which were the most current factors at the time the 2012 Bullhead City Second 10-Year LMP was being developed. ADEQ used updated emissions factors in the EPA's *Compilation of Air Pollutant Emissions Factors* (AP-42) to estimate PM₁₀ entrained by vehicle movement over paved roads. ADEQ also updated the non-mobile source inventory with 2008 National Emissions Inventory (NEI) data, primarily by adjusting county-specific estimates by the ratio of population in the Bullhead City area to the population of Mohave County. For point sources in Bullhead City, ADEQ used industrial source data collected in an annual survey of permitted facilities.

During the period in which the draft 2012 Bullhead City Second 10-Year LMP was being developed, the EPA replaced MOBILE6.2 with a new motor vehicle emission factor model, known as Motor Vehicle Emission Simulator (or "MOVES"). In response to an EPA request to consider the impact on the inventory due to the release of MOVES, ADEQ re-calculated the motor vehicle emissions estimates using MOVES and projected a 17.9 tons per year increase in emissions from motor vehicle exhaust, brake wear, and tire wear relative to the estimate made using MOBILE6.2.²³ This incremental increase corresponded to a 0.24 µg/m³ increase in ADEQ's motor vehicle regional analysis calculation. As such, use of MOVES, rather than MOBILE6.2, did not affect the continued eligibility of the Bullhead City area to use the LMP option.²⁴

Based on our review of the methods, models, and assumptions used by ADEQ to develop the PM₁₀ emissions inventory, we find that the 2012 Bullhead City Second 10-Year LMP

²³ ADEQ, "Bullhead City Update using MOVES," November 8, 2013.

²⁴ See the EPA's TSD for additional details.

includes a comprehensive inventory of PM₁₀ emissions and conclude that the plan's inventory is acceptable for the purposes of a subsequent maintenance plan, in this case, a subsequent LMP, under CAA section 175A(b).

Since submitting the Second 10-Year LMP, ADEQ has reported its emissions annually to the EPA under the Air Emissions Reporting Rule and has completed its reporting requirements for the 2011, 2014 and 2017 National Emissions Inventories.²⁵ For comparison with the 2008 emissions inventory in the Second 10-Year LMP, ADEQ provided 2011, 2014 and 2017 NEI data and windblown dust estimates for Bullhead City, as well as MOVES calculations for 2017.²⁶ The 2017 data are shown in Table 6 below along with the percentage of total emissions for each category.

Table 6. 2017 Emissions for the Bullhead City PM₁₀ Maintenance Area

Source Sector	2017 PM ₁₀ Emissions (tpy)	Percent of Total PM ₁₀ Emissions
Unpaved Road Dust	1,526.05	7.0
Paved Road Dust	202.56	0.9
MOVES Tire, Exhaust, and Brake wear	44.47	0.2
Subtotal – Motor Vehicles	1,773.09	8.1
Construction	119.71	0.5
Windblown Dust	19,891.89	91.3
Industrial Sources	0	0
Total	21,784.69	100

The motor vehicle fraction of the emissions inventory is approximately 8 percent for 2017, which is similar to the motor vehicle percentage of the 2008 inventory. The emissions calculated in MOVES have also not changed significantly, from 36.88 tpy in 2008 to 44.47 tpy in 2017. Construction dust in 2017 was approximately one-sixth of the 2008 emissions. All

²⁵ The docket for this rulemaking includes a spreadsheet of ADEQ's statewide emissions data for the 2011, 2014 and 2017 National Emissions Inventories.

²⁶ Email dated October 26, 2021, from Jessica Wood, ADEQ, to Panah Stauffer, EPA Region IX, Subject: "Bullhead City EI Analysis," and attached "Bullhead EI workbook" spreadsheet.

permitted industrial sources from the 2008 inventory had terminated their permits, were no longer required to hold a permit, or had ceased operation as of 2017.²⁷

The calculated windblown dust emissions were significantly higher in 2017 than in 2008. This is likely because of a change in the frequency of wind measurements at the Bullhead City airport. The Bullhead City Airport's meteorological station began taking wind measurements every 20 minutes on February 20, 2009. Prior to this, the monitor was taking hourly measurements for only 8-12 hours out of the day.²⁸ Because the windblown dust figure is calculated using the number of hours when wind speed exceeded 24 mph, the lower frequency of readings and lower windblown dust figure in the 2008 inventory indicate that number in the Second 10-Year LMP was likely underestimated.²⁹

In general, the inventory that was provided in the Second 10-Year LMP was comprehensive, and recent emissions confirm our conclusions about the submitted inventory and the area's LMP eligibility. Further, as noted above, the area has stayed in attainment and its second maintenance period will end in June 2022.

2. Control Measures

As discussed in our 2002 approval of the first 10-year LMP for the Bullhead City area, the measures that brought the area into attainment are permanent and enforceable.³⁰ The 2012 Bullhead City Second 10-Year LMP relies on the same control measures to continue to maintain the NAAQS for PM₁₀ through 2022. These measures have not been revised and continue to be permanent and enforceable.

3. PM₁₀ Air Quality Monitoring Network

As described earlier, ADEQ has operated a single PM₁₀ monitoring site in the Bullhead

²⁷ Id.

²⁸ Id.

²⁹ The underestimated windblown dust figure in the 2008 emissions inventory does not affect the area's eligibility for the LMP Option. The criteria for attainment and a design value concentration that falls below the 98 µg/m³ or site-specific CDV are unaffected by emissions inventory numbers. The motor vehicle criterion for LMP eligibility would only have been strengthened by a higher windblown dust figure for 2008 because the motor vehicle fraction of the inventory would have decreased.

³⁰ 67 FR 43020 at 43025 (June 26, 2002).

City area since November 1997. Operating a single monitor in this area is consistent with the EPA's monitoring requirements. In Section 6 of the Second 10-Year LMP, ADEQ committed "to continue to operate an appropriate PM₁₀ air quality monitoring network to verify the attainment status" of the Bullhead City area in accordance with 40 CFR part 58. In 2012, ADEQ replaced the PM₁₀ sampler that operated on a once every sixth-day sampling period with a continuous (hourly) monitor. ADEQ's monitoring network continues to meet EPA's requirements for Bullhead City.

4. Contingency Provisions

Section 175A(d) states that a maintenance plan must include contingency provisions, as necessary, to ensure prompt correction of any violation of the NAAQS which may occur after redesignation of the area to attainment. These contingency provisions do not have to be fully adopted measures at the time of redesignation. However, the contingency provisions are considered to be an enforceable part of the SIP and the State should ensure that contingency measures are adopted as soon as possible once they are triggered by a specific event. The contingency provisions should identify the measure to be adopted and provide a schedule and procedure for adoption and implementation of the measure if required.

In the Second 10-Year LMP, ADEQ has, in most respects, carried forward the contingency provisions adopted in the first 10-year LMP, which EPA approved in 2002. First, ADEQ committed to continue to submit annual reports to the EPA that will include calculation of the Bullhead City area PM₁₀ design value concentration to verify continued attainment and continued eligibility to use the LMP option.³¹ ADEQ made a similar commitment in the first 10-year LMP and submitted reports of annual PM₁₀ design value concentrations to the EPA for the first 10-year maintenance period. Since submitting the Second 10-Year LMP in 2012, ADEQ has continued to send reports of annual PM₁₀ design value concentrations to the EPA. These annual reports are included in the docket for this proposed action.

³¹ Section 6.0 of the 2012 Bullhead City Second 10-Year LMP.

Second, as part of the contingency provisions, ADEQ committed to determine whether PM₁₀ NAAQS violations have been recorded within six months of the close of each calendar year, and to review and determine the appropriate contingency measure(s) by the end of the same calendar year.³² Table 7 below lists the measures that ADEQ committed to consider for implementation in the event of a violation of the PM₁₀ NAAQS or in the event the annual recalculation of the area's design value concentration exceeded the applicable LMP option criteria. ADEQ noted, "the cause of the violation or exceedance of the LMP option criteria will help to determine the appropriate contingency measure(s) to be implemented."

Table 7 Bullhead City Area Contingency Measures

Contingency Measures	Implementing Entity
Review of Bullhead City grading ordinance to determine if additional action is needed	Bullhead City
Increased enforcement efforts, or develop a compliance survey, for standards for the installation and maintenance of landscaping and screening (Bullhead City Zoning Regulation, Chapter 17.48, Landscaping and Screening Regulations).	Bullhead City
Pave or stabilize unpaved roads located in the PM ₁₀ maintenance area.	Bullhead City and/or Mohave County
Pave additional unpaved parking areas in the Davis Camp Park (south beach parking areas).	Mohave County
Cleanup of roadways after rainstorms.	Mohave County
Increase enforcement efforts, or develop a compliance survey, for the requirement for all commercial establishments to pave parking lots (Mohave County Zoning Regulations, Section 26 Off-Street Parking standards).	Mohave County
Exercise authority under the Enhanced Smoke Management Plan – state and federal land managers conducting prescribed burning must register with ADEQ for proposed burning activities (Arizona Administrative Code R18-2-Article 15 – Forest & Range Management Burns). ADEQ maintains the ability to deny permission for burning on certain high risk days (dependent on meteorological conditions) and may increase outreach and enforcement resources.	U.S. Forest Service, U.S. Bureau of Land Management, Arizona State Land Department, ADEQ.
Review of the requirement for dust control measures for material storage piles to determine if revision is needed (A.A.C. R18-2-607.	ADEQ

Source: 2012 Bullhead City Second 10-Year LMP, Section 5.3, p. 25.

Finally, the State committed to implement the selected contingency measure(s) within

³² See section 5.3 of the 2012 Bullhead City Second 10-Year LMP.

one year of determining that a PM₁₀ NAAQS violation has occurred. We conclude that these measures and commitments meet the requirements of CAA section 175A(d). The Bullhead City area did not violate the PM₁₀ standard and has stayed in attainment with the PM₁₀ NAAQS to date.

D. Transportation and General Conformity Requirements

Section 176(c) of the CAA requires that all federal actions conform to an applicable SIP. Conformity is defined in section 176(c) of the Act as conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards, and that such activities will not: (1) cause or contribute to any new violation of any standard in any area; (2) increase the frequency or severity of any existing violation of any standard in any area; or (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The EPA has established criteria and procedures for federal agencies to follow in determining conformity of their actions. The EPA's rule governing transportation plans, programs, and projects approved or funded by the Federal Highway Administration or Federal Transit Administration is referred to as the "transportation conformity" rule,³³ and the EPA's rule governing all other types of federal agency actions is referred to as the "general conformity" rule.³⁴

The transportation conformity rule and the general conformity rule apply to nonattainment and maintenance areas. Both rules provide that conformity can be demonstrated by showing that the expected emissions from planned actions are consistent with the emissions budget for the area. While the EPA's LMP option does not exempt an area from the need to affirm conformity, the LMP policy explains that the area may demonstrate conformity without submitting an emissions budget.

³³ 40 CFR part 93, subpart A.

³⁴ 40 CFR part 93, subpart B.

1. Transportation Conformity

Under the conformity rule, areas submitting an LMP for the second 10-year maintenance plan may demonstrate conformity without a regional emissions analysis as outlined in 40 CFR 93.109(e). Under the LMP option, emissions budgets are not treated as constraining for the length of the maintenance period because it is unreasonable to expect that qualifying areas would experience so much growth in that period that a violation of the NAAQS would result. Therefore, in areas with approved LMPs, federal actions requiring conformity determinations under the transportation conformity rule are considered to satisfy the “budget test” required in 40 CFR 93.118.

While areas with maintenance plans approved under the LMP option are not subject to the budget test, the areas remain subject to other transportation conformity requirements of 40 CFR Part 93, Subpart A. Because no metropolitan planning organization exists for Bullhead City, the Arizona Department of Transportation will still need to document and ensure that applicable conformity requirements are met. Specifically, for conformity determinations, projects will have to demonstrate that they are fiscally constrained (40 CFR 93.108) and meet the criteria for consultation (40 CFR 93.105 and 40 CFR 93.112) and timely implementation (as applicable) of Transportation Control Measures (40 CFR 93.113). Projects in the Bullhead City area will also be required to be evaluated for potential PM₁₀ hot-spot issues to satisfy the “project level” conformity determination requirements. As appropriate, a project may then need to address the applicable criteria for a PM₁₀ hot-spot analysis as provided in 40 CFR 93.116 and 40 CFR 93.123.

Upon approval of the 2012 Bullhead City Second 10-Year LMP, the State (in this case, the Arizona Department of Transportation) will continue to be exempt from performing a regional emissions analysis but must continue to meet project-level analyses as well as the transportation conformity criteria mentioned above.

2. General Conformity

Federal actions, other than transportation conformity, that meet specific criteria need to be evaluated with respect to the requirements of 40 CFR part 93, subpart B. The EPA's general conformity rule requirements are designed to ensure that emissions from a federal action will not cause or contribute to new violations of the NAAQS, exacerbate current violations, or delay timely attainment. However, as noted in the LMP policy and similar to the above discussed transportation conformity provisions, federal actions subject to general conformity requirements would be considered to satisfy the "budget test," as specified in 40 CFR 93.158(a)(5)(i)(A). As discussed above, the basis for this provision in the LMP policy memorandum is that it is unreasonable to expect that an LMP area will experience so much growth during the maintenance period that a violation of the PM₁₀ NAAQS would result. Therefore, for purposes of general conformity, a general conformity PM₁₀ emissions budget does not need to be identified in the maintenance plan, nor submitted, and the emissions from federal agency actions are essentially considered to not be limited.

IV. The EPA's Proposed Action

Under CAA section 110(k), the EPA is proposing to approve the Second 10-Year LMP for the Bullhead City air quality planning area for the PM₁₀ NAAQS that was submitted by ADEQ on May 24, 2012, as a revision to the Arizona SIP. The EPA is approving this plan based on the conclusion that it adequately provides for continued maintenance of the PM₁₀ NAAQS in the Bullhead City area through 2022 and thereby meets the requirements for subsequent maintenance plans under section 175A of the Act. The effect of this action is to make the State's continuing commitments with respect to maintenance of the PM₁₀ NAAQS in the Bullhead City area federally enforceable for the second 10-year maintenance period. These commitments include continued monitoring; continued implementation of control measures that were responsible for bringing the area into attainment; preparation and submittal of annual reports; consideration and implementation of contingency measures, as necessary; and submittal of a full maintenance plan if contingency measures fail to provide the required remedy.

V. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this proposed action merely proposes to approve state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, there are no areas of Indian country within the Bullhead City planning area, and the State plan for which the EPA is proposing approval does not apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, this proposed action does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Particulate matter, Reporting and recordkeeping requirements.

AUTHORITY: 42 U.S.C. 7401 *et seq.*

Dated: December 2, 2021.

Deborah Jordan,
Acting Regional Administrator,
EPA Region IX.

[FR Doc. 2021-26619 Filed: 12/8/2021 8:45 am; Publication Date: 12/9/2021]